ANN BAVENDER*
ANNE GOODWIN CRUMP
VINCENT J. CURTIS, JR.
PAUL J. FELDMAN
FRANK R. JAZZO
ANDREW S. KERSTING
EUGENE M. LAWSON, JR.
SUSAN A. MARSHALL*
HARRY C. MARTIN
RAYMOND J. QUIANZON
LEONARD R. RAISH
JAMES P. RILEY
ALISON J. SHAPIRO
KATHLEEN VICTORY
JENNIFER DINE WAGNER*
HOWARD M. WEISS
ZHAO XIAOHUA*

* NOT ADMITTED IN VIRGINIA

FLETCHER, HEALD & HILDRETH, P.L.C.

ATTORNEYS AT LAW
11th FLOOR, 1300 NORTH 17th STREET
ARLINGTON, VIRGINIA 22209-3801

(703) 812-0400
TELECOPIER
(703) 812-0486
INTERNET
www.fhh-telcomlaw.com

RETIRED MEMBERS
RICHARD HILDRETH
GEORGE PETRUTSAS

CONSULTANT FOR INTERNATIONAL AND INTERGOVERNMENTAL AFFAIRS
SHELDON J. KRYS
U. S. AMBASSADOR (ret.)

OF COUNSEL
EDWARD A. CAINE*
DONALD J. EVANS*
MITCHELL LAZARUS
EDWARD S. O'NEILL*

WRITER'S DIRECT
703-812-0440
lazarus@fhh-telcomlaw.com

April 26, 2000

BY HAND DELIVERY
Ms. Magalie Salas, Secretary
Federal Communications Commission
445 12th Street, SW
Room TW-B204
Washington, DC 20554

Re: WT Docket No. 00-32, The 4.9 GHz Band Transferred from Federal Government Use

Dear Ms. Salas:

On behalf of the Fixed Wireless Communications Coalition (FWCC), I enclose for filing with the Commission the original and nine copies of the FWCC's Comments in the above-referenced docket.

Kindly date-stamp and return the extra copy of this cover letter.

If there are any questions about this filing, please call me at the number above.

Respectfully submitted,

Mitchell Lazarus
Counsel for Fixed Wireless Communications Coalition

ML:deb

Enclosures

cc: Service List

No. of Copies rec'd 0+9
List ABCDE

ORIGINAL DOCKET FILE COPY ORIGINAL

Before the
Federal Communications Commission
Washington DC 20554

In the Matter of	)	
	)	
The 4.9 GHz Band Transferred from Federal Government Use	)	WT Docket No. 00-32
	)	

COMMENTS OF THE FIXED WIRELESS COMMUNICATIONS COALITION

The Fixed Wireless Communications Coalition (FWCC)[1] respectfully submits these Comments in response to the Notice of Proposed Rulemaking in the above-captioned proceeding.[2]

The Commission proposes to reallocate the 4940-4990 MHz band to the private sector and to license it by auction under Part 27 of the Rules. Permitted services would include any fixed or mobile services, except aeronautical mobile.[3]

The FWCC's sole concern in this docket is the proposal to allow both fixed and mobile services in the same bands.

---

[1] The FWCC is a coalition of equipment manufacturers and users interested in terrestrial fixed microwave communications. Its membership includes manufacturers of microwave equipment, licensees of terrestrial fixed microwave systems and their associations, and communication service providers and their associations. Its membership also includes railroads, public utilities, petroleum and pipeline entities, public safety agencies, the broadcast industry and their respective associations, telecommunications carriers, landline and wireless, local, and interexchange carriers, and others. A list of members is attached as Appendix A.

[2] The 4.9 GHz Band Transferred from Federal Government Use, WT Docket No. 00-32, Notice of Proposed Rulemaking, FCC 00-63 (released Feb. 29, 2000) (Notice).

[3] Notice at paras. 16, 29. *See also* 47 C.F.R. Sec. 27.2 (permitting fixed, mobile, and radiolocation services).

For the reasons set out below, the FWCC urges the Commission to set aside at least part of the 4.9 GHz band for fixed use.

THE COMMISSION SHOULD RESERVE AT LEAST PART OF THE 4.9 GHz BAND FOR THE FIXED SERVICES.

A. Fixed and Mobile Services Cannot Coordinate Effectively Across License Area Boundaries.

Fixed and mobile providers both have methods to facilitate coexistence among similar users, but these methods do not work between the different types of services. Fixed point-to-point service providers in the same area use prior frequency coordination, which requires an applicant to notify potential interference victims of its planned facility in advance and take any needed steps to eliminate likely interference. Mobile users, in contrast, typically have exclusive rights to a block of spectrum in a given area. Even at license area boundaries, similar services can usually avoid interfering with one another. Fixed licensees can often manage interference through conventional frequency coordination, while neighboring mobile licensees in the same band typically enter into roaming agreements.

But no prior coordination method works for both fixed and mobile users simultaneously. A mobile transmitter located in the antenna boresight of a fixed service receiver on the same frequency will generally cause interference to that receiver. Conversely, a mobile receiver may suffer co-channel interference while located near the axis of a fixed service transmitter. In principle, one could employ an integrated system capable of managing interference avoidance between both fixed and mobile components on the same frequencies, but its technological complexity could be difficult to justify. As a practical matter, a 4.9 GHz area licensee can use any given part of the band to provide either fixed or mobile services, but not both.

The FWCC is concerned about interference problems near area boundaries between licensees using the same frequency for different kinds of services. Suppose that Licensee *A* provides fixed services, while its immediate neighbor, Licensee *B*, uses the same part of the band for mobile services. Nothing stops *B*'s mobile end users from attempting to operate their equipment on *A*'s side of the boundary, or even deep into *A*'s territory. Whenever a mobile transmitter licensed to *B* passes near the boresight of *A*'s fixed receiver, or *B*'s mobile receiver passes near the axis of *A*'s fixed transmitter, interference is likely.

The Commission's proposal to permit fixed or mobile services in any part of the band will thus lead to probable interference between fixed and mobile users licensed in adjacent areas. The Commission can best avoid this problem by segregating fixed and mobile services into different parts of the band.

B. Fixed Operators Need an Exclusive Allocation in at Least Part of the 4.9 GHz Band to Help Offset Spectrum Preempted for Satellite Services.

The Fixed Services are an unsung but vital part of the Nation's infrastructure. They provide communications essential to the energy, transportation, and telecommunications industries, among others, and play a key role in public safety and other governmental operations.

Notwithstanding their ubiquity and importance, the Fixed Services are subject to severe spectrum shortages. Recent Commission decisions and proposals that re-allocate bands away from the Fixed Services for satellite use, and that threaten to increase the sharing burdens on the Fixed Services to accommodate new satellite operations, have left the Fixed Services with inadequate spectrum for orderly growth and expansion of needed services.

First came a reallocation of 2 GHz band frequencies from the Fixed Service to mobile satellite services.[4] (The same proceeding also allocated 2 GHz frequencies to PCS.) Then, despite having identified the 6 GHz band as a primary relocation site for former 2 GHz users,[5] the Commission proposed designating the upper 6 GHz band (6700-7075 MHz) for mobile satellite feeder links.[6] The Commission also proposed a similarly severe reduction of spectrum available to the Fixed Services in the 18 GHz band.[7] The ongoing Ku-band proceeding threatens to move NGSO gateway stations into the already-congested 11 GHz band, and to expand GSO FSS downlink operations from half that band to the full band.[8] The "shared" 3.7-4.2 GHz band has become effectively unavailable to the Fixed Service due to the extremely difficult problems of coordinating new Fixed Service stations with existing licensed earth stations. (The band accommodated only 14 new terrestrial licenses in all of 1998.[9]) In the 36-51 GHz band, satellite

---

[4] Redevelopment of the Spectrum to Encourage Innovation in New Telecommunications Technology, ET Docket No. 92-2, First Report and Order, 7 FCC Rcd 6886 (1992), Second Report and Order, 8 FCC Rcd 6495 (1993), Third Report and Order, 8 FCC Rcd 6589 (1993).

[5] Second Report and Order, *supra*, 8 FCC Rcd at 6506, ¶ 28.

[6] Amendment of Parts 2, 25 and 97 of the Commission's Rules with Regard to Mobile Satellite Service Above 1 GHz, 13 FCC Rcd 17107 (1998); Establishment of Policies and Service Rules for the Mobile Satellite Service in the 2 GHz Band, IB Docket No. 99-81, Notice of Proposed Rulemaking, FCC 99-50 (released March 25, 1999).

[7] Redesignation of the 17.7-19.7 GHz Frequency Band, 13 FCC Rcd 19923 (1998).

[8] NGSO FSS Systems Co-Frequency with GSO and Terrestrial Systems, 14 FCC Rcd 1131 (1998) (Notice of Proposed Rulemaking) (for proposal to expand GSO FSS operations, *see* Appendix A, C.F.R. Sec. 25.202(a)(1) (proposed)).

[9] Robert J. Matheson, *Spectrum Usage for the Fixed Services*, NTIA, U.S. Dept. of Commerce (March 2000). Summary data for 1999 is not available.

interests have filed petitions to overturn an equitable distribution of spectrum between satellite systems and wireless operations, including the Fixed Services.[10]

C. Permitting Licensees to Choose Fixed or Mobile Services Anywhere in The Band Would Discourage Both Auction Expenditures And Equipment Development.

The real estate dictum "location, location, and location" leaves something out. The value of a real estate parcel depends also on how its neighbors are permitted to use their land. That is why localities enact zoning ordinances to protect landowners against incompatible adjacent uses.

In the same way, the value of a block of spectrum to a particular bidder depends on the plans of bidders in adjacent license areas. A given license is worth more to a point-to-point Fixed Service provider, for example, if it knows in advance that the geographically adjacent licensees will also provide similar services, because each can be confident of avoiding interference at the boundaries through prior frequency coordination. Similarly, a mobile provider that knows its immediate neighbors will be in the same business is likely to bid more, knowing it will be able to negotiate roaming agreements. Even if roaming agreements are infeasible, each bidder knows interference between mobile systems will tend to be concentrated near the boundary, and even there will be minor and transitory at worst.

In contrast, a rational Fixed Service provider will pay less for spectrum where the adjacent licensee plans to provide mobile service, because it knows to expect interference and possible service interruptions. For the same reasons, a mobile provider should pay less for

---

[10] Petition for Reconsideration of Hughes Communications, Inc. (filed Feb. 16, 1999) (seeking reconsideration of Allocation and Designation of Spectrum, 13 FCC Rcd 24649 (1998)); Petition for Reconsideration of GE American Communications, Inc. (filed Feb. 16, 1999) (same); Petition for Reconsideration/ Clarification of TRW, Inc. (filed Feb. 16, 1999) (same).

spectrum adjacent to a Fixed Service operator. Where the adjacent licensee's plans are unknown, the uncertainly itself will have a downward effect on value. A prudent bidder unable to predict its neighbors' applications would proceed under worst-case assumptions, and set its bids accordingly.

The same uncertainties will also slow the availability of equipment, at least for Fixed Service applications. Several manufacturer-members of the FWCC advise that equipment for the 4.9 GHz band will require investment in a development effort. At least some are reluctant to make that investment without assurance that part of the band will be suitable for Fixed Service applications. Otherwise, they fear, the uncertainties will deter Fixed Service bidders, and thus impair the market for their products.

The effects of disincentives to bidders and to equipment manufacturers are mutually reinforcing. Poor prospects for equipment availability make the spectrum less valuable to Fixed Service bidders, and their lack of interest further depresses the market for equipment. The effect may extend even to spectrum ultimately auctioned to mobile providers. Thanks to lack of bidding competition from the Fixed Service, spectrum purchased for mobile applications might go for less than it would otherwise be worth.

In short, the Commission can raise the value of the 4.9 GHz band to bidders generally by "zoning" at least part of it for the Fixed Service.

CONCLUSION

The Commission should rethink its proposal to allow both fixed and mobile services throughout the 4.9 GHz band. Instead, it should segregate at least part of the band from the outset for fixed and mobile services. This is only sure way to avoid interference between fixed

and mobile users at license area boundaries. Moreover, the identification of spectrum for the Fixed Services will help to mitigate the ongoing shortages caused by reallocations to satellite and other uses. Finally, setting aside spectrum for the Fixed Service will increase the value of the 4.9 GHz band to both fixed and mobile bidders.

Respectfully submitted,

Leonard R. Raish
Mitchell Lazarus
FLETCHER, HEALD & HILDRETH, P.L.C.
1300 North 17th Street, 11th Floor
Arlington, VA 22209
703-812-0400
Counsel for the
Fixed Wireless Communications Coalition

April 26, 2000

FIXED WIRELESS COMMUNICATIONS COALITION

The Fixed Wireless Communications Coalition was formed by terrestrial fixed microwave users and suppliers to assure that adequate spectrum resources are available for current and future terrestrial fixed microwave communications. Such action is necessary because spectrum allocation and re-allocation actions currently under consideration at the FCC require fixed microwave interests to speak with a common voice. Additionally, the Coalition works for a regulatory climate both at the FCC and the ITU that permits the manufacture, operation, and use of terrestrial fixed microwave systems.

MEMBERS

USERS

Association of Public-Safety Communications Officials
United Telecom Council (UTC)
National Association of Broadcasters
National Cable Television Association
Independent Cable Telecommunications Association
American Petroleum Institute
Wireless Communications Association
Personal Communications Industry Association
CBS Communications Services
Norfolk-Southern Railroad
Union Pacific Railroad
Burlington-Northern Railroad
BellSouth
Bell Atlantic
SBC Communications, Inc.
People's Choice TV
Association of American Railroads
WINSTAR Communications Inc.

MANUFACTURERS

Harris Corporation -- Microwave Communications Division
Alcatel Network Systems Inc.
Digital Microwave Corporation
California Microwave, Microwave Data Systems
Tadiran Microwave Networks
Spectrapoint Wireless LLC
Nortel Networks
P-Com, Inc.
LUCENT Technologies

CO-CHAIRS

Leonard R. Raish
Fletcher, Heald & Hildreth, PLC
1300 North 17th Street, 11th Floor
Arlington, VA 22209
703-812-0400

Thomas J. Keller
Verner, Liipfert Bernhard McPherson
& Hand, Chartered
901 15th Street, N.W., Suite 700
Washington, D.C. 20005-2301
202-371-6060

CERTIFICATE OF SERVICE

I, Deborah N. Lunt, a secretary for the law firm of Fletcher, Heald & Hildreth, P.L.C., hereby certify that a true copy of the foregoing "Comments of the Fixed Wireless Communications Coalition" was sent this 26th day of April, 2000, by hand delivery to the following:

Chairman William E. Kennard
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Commissioner Harold Furchtgott-Roth
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Commissioner Michael Powell
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Commissioner Susan Ness
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Commissioner Gloria Tristani
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Thomas J. Sugrue, Chief
Wireless Telecommunications Bureau
Federal Communications Commission
445 12th Street, S.W., Room 3C252
Washington, D.C. 20554

Khris Monteith, Chief
Policy Division
Wireless Telecommunications Bureau
Federal Communications Commission
445 12th Street, SW
Washington, D.C. 20554

Eli Johnson
Senior Attorney
Policy Division
Wireless Telecommunications Bureau
Federal Communications Commission
445 12th Street, SW
Washington, D.C. 20554

Deborah N. Lunt